

Notice of Allowability

Application No.

09/933,586

Examiner

Jonas N. Strickland

Applicant(s)

DEEBA ET AL.

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 11/13/03.
2. ☒ The allowed claim(s) is/are claims 55-59 and 61-79.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 5 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ |
| 3 <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No. _____ | 7 <input type="checkbox"/> Examiner's Amendment/Comment |
| 4 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |

Allowable Subject Matter

1. Claims 55-59 and 61-79 are allowed.
2. The following is an examiner's statement of reasons for allowance: The instant application is in condition for allowance, because the cited prior art fails to disclose a method for rejuvenating a spent catalyst, wherein the catalytic component is comprised of a precious metal effective for promoting the reduction of nitrogen oxide and a nitrogen oxide sorbent effective for adsorbing nitrogen oxides under lean conditions and desorbing and reducing the nitrogen oxide to nitrogen under rich conditions. The rejuvenation of the catalyst comprises post-impregnating the spent catalyst with an aqueous solution of a manganese component, manganese salt, or a combination of alkaline, alkali, transition, and rare earth metals.

The Examiner cited Feeley et al., which discloses a method for using a regenerable catalyzed trap. The method disclosed by Feeley et al. may be directed towards treating pollutants such as nitrogen oxides (col. 2, lines 43-51). Feeley et al. discloses a using a common refractory carrier member (col. 2, line 65), such as gamma alumina support (col. 6, line 50). Feeley et al. continues to disclose a catalytic treatment zone for the abatement of nitrogen oxides, which may comprise platinum on a metal oxide support (col. 8, lines 24-29). Feeley et al. also teaches using alkali and alkaline metal oxides (col. 3, lines 9-35). Feeley et al. continues to teach producing a platinum/manganese trap material, which is calcined and dried (col. 13, lines 18-28).

However, after reviewing Applicant's arguments Feeley et al. discloses a process for the regenerable catalyzed trap for removing sorbable components, such as SO_x and

PO_x from a lean gas stream. Feeley et al. does not teach a nitrogen oxide abatement catalyst, wherein a manganese component is impregnated to rejuvenate the catalyst.

Hepburn et al. teaches a potassium/manganese nitrogen oxide trap for lean burn engine operation, wherein the catalyst consists of manganese and potassium loaded on a porous support (see abstract). Hepburn et al. teaches a gamma-alumina support, wherein manganese nitrate is impregnated into the washcoat and drying and calcining the impregnated washcoat (col. 3, lines 1-11). Hepburn et al. continues to disclose wherein when the potassium is impregnated into the washcoat first it loses its effectiveness as a trap material, because the sulfur compounds react with the potassium to form potassium sulfide or potassium sulfate. When the manganese component is loaded, the sulfur poisoning of the potassium is reduced significantly (col. 3, lines 12-29). Therefore, it would have been obvious to rejuvenate a nitrogen oxide trap catalyst based on the teachings of Hepburn et al. However, Hepburn et al. discloses wherein the precious metal component should not be present in the trap. The newly amended claim requires a precious metal component in the catalytic component of the trap.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonas N. Strickland whose telephone number is 703-306-5692. The examiner can normally be reached on M-TH, 7:30-5:00, off 1st Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 703-308-3837. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0661.

Jonas N. Strickland
December 10, 2003


STANLEY SILVERMAN
SUPERVISOR
TECHNOLOGICAL CENTER 1700